REMARKS

Claims 1-20 are currently pending in the application. Claims 1 has been amended by changing "has a means to invalidate" to "being capable of invalidating" at lines 3-4. Support for this amendment may be found in the Specification at page 3, lines 7-8. No new matter has been added.

The Claimed Invention

The claimed invention provides a rental car system in which cars are operated by digital keys instead of conventional keys and in which, among other things, there is no need for a data communication link between a rental car and a central station or transaction-by-transaction reprogramming of a rental car's reader. Each of the cars is capable of invalidating a digital key at the end of a rental period.

It is commonplace in rental car systems for car keys to be left in cars when cars are waiting to be picked up by customers and when cars are dropped off by customers at the end of the rental period. As a result, rental car keys are vulnerable to theft or copying which would, for example, enable a criminal to follow a rental car when it leaves a parking lot and steal the car when it is unattended.

The present invention makes it possible to secure a vehicle in a car rental system without the use of conventional car keys, and to do so without requiring a data communication link between a car and a central station to determine whether an operator is authorized to use the car. In addition, the present invention does not require reprogramming of a rental car's reader in order to prepare it for the next renter.

As shown in Figure 1, the present invention includes a computing system 10, a portable storage device 12, and an access control device 14 with an interface 16 to a portable storage inside a rental car 160. The computing system 10 is used to make reservations and to create and store the digital keys used to enable operation of a rental cars 160. Such computing system 10 may be of various types, including (without limitation) a terminal located in a kiosk 140 at a car rental agency or a personal

computer 130 located at a home, office or other location. In either case, such computer system 10 is to be capable of connecting to the central reservation server 110 via a network 120, which may be the Internet. The computing system 10 may be provided with way to download a digital key to a portable storage device 12. Such portable storage device may take the form of a smart card issued by the car rental agency, a personal digital assistant, a memory card, or a diskette. The digital key may specify the starting date and time of a given rental transaction, as well as the identification of the car for which the key is provided. The digital key may be signed by the car rental system for authenticity and may include information, such as a personal identification number known only to the renter, to prevent a lost digital key from being used by unauthorized persons. A renter may thus bring a portable storage device 12 containing a digital key to a rental car 160 equipped with an access control device 14 capable of reading the digital key from the portable storage device 12 and, upon authentication of the digital key by the access control device, enable operation of the rental car 160. When the rental car 160 is returned, the car invalidates the digital key so that it can no longer be used to operate the car, and the renter may present the invalidated digital key to a central station of the car rental system. The renter may be held liable for the rental car until the invalidated digital key is presented to a central station of the car rental system at the conclusion of the rental period. Since the in-car controller is able to decipher authorization information from a digital key, there is no need to reprogram the in-car controller for the next renter.

Rejection of Claims 1-20

The Examiner has rejected Claims 1-20 under 35 U.S.C. § 112, first and second paragraphs. The Examiner has also rejected Claims 1-20 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,386,451 to Sehr in view of U.S. Published Patent Application No. 2001/0028295 to Brinkmeyer et al. Applicants respectfully traverse these rejections for the following reasons, which are discussed more fully below: (a) the application as amended satisfies the requirements of 35 U.S.C. § 112, first and second paragraph; and (b) a combination of Sehr and Brinkmeyer et al. would not result in the

claimed invention.

Rejection Under 35 U.S.C. § 112, First and Second Paragraph

The Examiner separately rejected Claims 1-10 and Claims 11-20 for lack of enablement pursuant to 35 U.S.C. § 112, first and second paragraph, on the basis that "[i]t is unclear how the claimed invention includes 'means to invalidate a digital key.'" (Office Action at 3) (emphasis added) These rejections were erroneous for different reasons.

With regard to Claims 1-10, only Claim 1 (from which Claims 2-10 depend) contained the means language objected to by the Examiner. This language has been changed by the current amendment and, as currently amended, Claim 1 no longer presents a basis for rejection for lack of enablement. With regard to Claims 11-20, neither Claim 11 nor its dependencies ever contained the means language objected to by the Examiner. As a result, it was not necessary to amend Claims 11-20; they are in condition for allowance.

The Examiner's Attention is directed to Figure 5 of the application and page 7 lines 8-19 of the application. Here the "return process" is described. An in-car access controller 330 receives an instruction from the renter that he or she plans to return the car. In response, the renter is prompted to insert the smart card in the smart card slot. Then, the access controller 330 obtains status information about the car (amount of fuel in tank, etc.) and creates a return packet which is electronically signed by the private key of the access controller, and this is saved into the smart card. Then, the access controller 330 invalidates the current digital key in step 514 by making a record in a storage device of the access controller (e.g., a once valid digital key is no longer valid as soon as a copy is stored in the storage area).

In view of Figure 5 and the text in the patent specification, it would be clear to one of ordinary skill in the art how to make and use the invention. The flow charts and process steps provided in the application are well within the knowledge and understanding of one of ordinary skill in the art. The Examiner's questions "Does the key

expire on a certain date? Or does the local database include a flag that indicates the key is invalid? Or is information stored on the key that indicates the key is invalidated? Or does the key emit a signal that activates/deactivates the engine of the card?", are not understood in view of the explicit discussion on invalidation of the digital provided in Figure 5 and the patent specification. In the invention, the key is invalidated using the access controller when the renter desires to return the automobile. There are a number of steps performed in reading and writing to the smart card by the access controller with the final step being to invalidate the digital key. Thus, the Examiner interpreting as "any means for disabling the automobile" is simply incorrect. What is claimed is invalidating the digital key. Of course, the invention contemplates preventing an invalidated digital key from being used to operate a car, thus, once the digital key is invalidated, the rental company is secure that the car will not be taken improperly with the now invalidated key. Furthermore, as expressly recited in claim 1 and claim 11, the invention contemplates "no data communications link between the fleet of cars and the management system".

In view of the above, the claims are fully enabled by the patent specification, and are not indefinite.

Rejection Under 35 U.S.C. § 103(a)

The Examiner also rejected Claims 1-20 under 35 U.S.C. § 103(a) as unpatentable over Sehr in view of Brinkmeyer et al. As discussed above, however, a combination of Sehr with Brinkmeyer et al. would not result in or make the claimed invention obvious to one of ordinary skill in the art.

Sehr teaches a method utilizing multi-application passport cards for immigration and customs applications. Contrary to the Examiner's erroneous finding, Sehr does not disclose a car rental system or method. Sehr does teach that a disclosed method of using an information card may also be used for car rental purposes, in addition to reserving hotels, and so forth. Sehr also teaches that car rental use of the disclosed information card may include loading an electronic car key onto the information card. (Sehr, column 37, lines 36-38) Sehr does not, however, teach that a rental car would be capable of

invalidating a digital key, as in claim 1, lines 3-4, or dependent claim 17.

Recognizing that Sehr does not teach invalidation of a digital key by a rental car, the Examiner erroneously relies on Brinkmeyer et al. to make up for the deficiency. (Office Action at 4) Brinkmeyer, et al., however, teach immobilization of a car rather than invalidation of a digital key. (Brinkmeyer et al., paragraphs 0023-0026, cited in the Office Action at 4). Because Brinkmeyer et al. do not teach invalidation of a digital key, they cannot be said to suggest this feature of Claims 1-10 and 17-18.

Thus, a combination of Sehr with Brinkmeyer et al. would not result in Claims 1-10 and 17-18.

With specific reference to claim 11 and its dependent claims, the Examiner admits that Sehr does not explicitly disclose downloading the digital key to a portable storage device that is used to gain access to the rental car without communication between the rental care and the reservation server. The Examiner relies on paragraphs 23-26 as showing this feature. However, this conclusion is simply incorrect. It can be seen that paragraphs 23 and 24 are concerned with communications between the electronic key and the vehicle in order to operate the vehicle. Claim 11 requires both checking by the available of the request car and "creating by the reservation server a digital key by car and user information with a digital signature of the reservation server" and "downloading the digital key to a portable storage device, the portable storage device being used to gain access to a rental car". All that can be inferred from paragraphs 23 and 24 is that it is known that electronic keys can be used to operate a vehicle. Paragraphs 23 and 24 do not show or suggest the creating of a digital key with a digital signature which allows the car to be operated without communication between the rental car and the reservation server. Paragraphs 25 and 26 of Brinkmeyer, show, quite the opposite of the claimed invention, communications between the vehicle and the reservation desk. Note that paragraph 25 discusses transmitting a use disabling signal to the key, and paragraph 26 discusses disabling the key communication device by the key controller.

In view of the above, Brinkmeyer does not make up for the deficiencies of Sher,

and no combination of Sher and Brinkmeyer would make the claimed invention obvious.

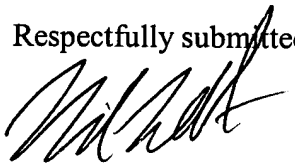
Conclusion

In view of the foregoing, it is respectfully requested that the application be reconsidered, that Claims 1-20 be allowed, and that the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-0510 (IBM).

Respectfully submitted,



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